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Parrish, Peter P., Computers Paterson, E. G. D., Vendor-Vendee Relations Paul, Donald L., Administration Peace, Archie, Configuration Assurance Peck, F. A., Inspection Peno, R. E., Systems Perdriau, P. W., Motivation Petcher, S., Motivation (see Konicek) Peters, George A., Product Liability Peterson, Ira C. Jr., Product Liability Pinto, Daniel, Computers (see Cerniglia) Pippitt, Robert G., Quality Cost Pollitzer, E. A., Statistics Prim, H., Systems (see Merrill) Pritchett, L. D., Aircraft & Missiles Purcell, Warren R., Administration

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Schmidt, Darlene C., Administration, Education, Electronics, Product Liability Schmidt, P. J., Administration Schricker, A. G., Administration (see Schmidt, P. J.) Scott, J. E., Statistics Seideman, Irving M., Education Senn, G. A., Systems (see Peno) Shainin, Dorian, Administration Sharan, Stephen, Vendor-Vendee Relations Shore, Harvey H., Systems Shuman, E. C., Metrology Simmons, D. A., Bio-medical Control Smiley, R. W., Motivation (see Konicek) Snee, Andrew J., Systems Staples, Elton E., Metrology Stewart, R. L., Product Liability Stiles, Edward M., Vendor-Vendee Relations Stimpson, Earl, Computers

Stolle, Richard Metrology Stowe, Frank E., Computers (see Parrish)

Thomas, W. E., Nondestructive Testing Tinkham, March L., Administration, Standards Turner, Thomas E., Inspection, Quality Costs Turner, T. F., Statistics

VanCronkhite, J. Bryant, Administration, Chemical, Computers, Drug & Cosmetics, Education, Food & Allied Industries, Motivation, Re Allow up ability, Standards (see also Tinkham) Van Donkelaar, Pieter, Configuration Assurance Venner, Jack H., Reliability

Wachniak, Raymond, Statistics Weis, A. E., Systems Weldon, W. J., Nondestructive Testing Whisman, Dale, Computers (see LeBlanc) White, Charles E., Metrology Whiteman, Irvin R., Computers (see Loo) Whitten, R. A., Textile & Needle Trades Williams, H. E., Administration Wilson, Frank C., Textile & Needle Trades (see Hines) Worland, Robert B., Education

Young, John W., Administration

Two books worthy of your consideration...

PROFIT THROUGH QUALITY Management Control of Q and R
Techniques by Sidney Weinberg.
Practical production and general
manager's guide to analysis of
quality requirements and establishment of effective profitable quality
and reliability policy. 192 pp. 12
illustrations 1969

CONTENTS: "" is for Profit. The Attitude of Defect Prevention. The Cost of Quality. The Quality Department — How Good is 1t? The Quality Department — How How Store to C Supplier Quality — What Is 1t? Defect Prevention — The Nuts and Boits. Defect Prevention vs. "Compensation". Goal Setting. Corporate Quality Control.

**CUTTING THE COST OF QUALITY** by Philip B. Crosby, corporate vice president, International Telephone & Telegraph Co. For quality control managers and those involved with the problems of costing. Shows how to approach systematically the problems of eliminating warranty, scrap and rework costs caused by lack of prevention. How to achieve immediate results. 244 pages 1967 CONTENTS: Profit in Quality and Reliability.
Basic Requirements of a Q and R policy. Human Contribution to Quality. Increasing the Proportion of Good Quality. Standardization and Specification. Role of Inspection in Insuring Quality. Development 1: Improvement and Innovation. Development 11: Increase in Reliability. Purchase of Quality. Typical Complaints Code. Guide to the Preparation of Specifications.



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#### **EDUCATION AND TRAINING INSTITUTE**

- 82. Configuration Management (1969), 94 pp.
- 198. DCAS Quality Assurance Program (1968), 48 pp.
- 120. Heavy-Duty 3-Ring ASQC Binder, (2-in.)
- 28. Introduction to Probability & Statistics (1969), 54 pp.
- M5. Quality Control & Reliability Management (1969), 82 pp.
- 12. Reliability Engineering (1968), 442 pp.

#### Standards

- 1, ASQC Std. A1: Definitions, Symbols, Formulas & Tables for Control Charts (1968)
- 3. ASQC Std. A2: Definitions & Symbols for Acceptance Sampling by Attributes (1962)
- 5. ASQC Std. A3: Glossary of General Terms Used in Quality Control (1964)
- 11. ASQC Std. B1/B2: Guide for Quality Control/Control Chart Method of Analyzing Data (reaffirmed 1969)
- 13. ASQC Std. B3: Control Chart Method of Controlling Quality During Production (reaffirmed 1969)
- 16. ASQC Std. CI: Specification of General Requirements for a Quality Program (1968)

#### **GENERAL REFERENCE**

- M2. ASQC Code of Ethics (simulated parchment, 81/2"x11")
- 35, ASTM Manual on Quality Control of Materials (1951).
- 92. Industrial Quality Control Index, 1944-1954
- 33. Industrial Quality Control Index, 1954-1959

- 5. Make checks payable to "American Society for Quality Control.
- 6. Publishers volumes are listed elsewhere in this issue.
- Items not starred (\*) may be discounted 10% in quantities of 10-49 identical copies; and 25% in quantities of 50 or more identical copies. ASQC members receive additional discounts as listed.
- 116. Literature Classification System (LCS) Guide
- 126. Mfg. Improvement Through Experimentation: Enrick/Mottley (1968), 160 pp.
- Manufacturing Quality Control: Enrick/Mottley (1967), 118 pp.
- \*140. NSMPA Manual on Stat. QC: Vol. I "What & Why" (1953), 15 pp.
- \*141. NSMPA Manual on QC Charts: Vol. II "Hwy Markers to Better Quality" (1954), 20 pp.
- \*142. NSMPA Manual on QC Sampling Insp.: Vol. III
  "Do-It-Yourself Sampling Inspection Installation" (1955), 21 pp.
  - Power to Detect & Probability of Type 1 Error for the Upper Three-Sigma Limit Control Chart for Number of Defects (Gen. Pub. 5) (1961), 16 pp.
  - Power to Detect Probability of a Type 1 Error for the Upper Three-Sigma Limit Control Chart for Fraction Defective (Gen. Pub. 4) (1958), 20 pp.
  - 94. Quality Progress Cumulative Index, 1968-1970
  - 25. Span Plan Method of Process Capability Analysis (Gen. Pub. 3) (1956), 59 pp.

#### ASOC COMMITTEE REPORTS

- 62. Case Histories on Stat. Methods for Quality Control, Series III (1964), 64 pp.
- 158. Procurement Quality Control (Vendor-Vendee Handbook) (1969), 280 pp.
- 165. Quality Costs What and How, 2nd Ed. (1971), 54 pp.
- 170. Quality Motivation Workbook (1967), 120 pp.

#### ANNUAL TECHNICAL CONFERENCE TRANSACTIONS

982. 19th ATC — 1965 983. 20th ATC — 1966 100. 17th ATC — 1963 101. 18th ATC — 1964

984. 21st ATC — 1967 985. 22nd ATC — 1968

986. 23rd ATC — 1969 988. 25th ATC — 1971

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## The Education and Training Institute Announces the 1971-1972 Short Courses In:

#### **Quality Audit Development** Administration

di 17-19, 1972 Downtowner Motor Inn. Milwaukee, Wis.

## Management of Quality Costs

January 21-22, 1972 Plankinton House, Milwaukee, Wis.

#### Course Objectives

course alerts the student to the essentials of a valid qualyaudit as a modern management tool. Basic principles evolve m initial development through implementation with emphasis reliable, accurate and timely feedback for positive correce action. The student is equipped to understand and apply propriate techniques to process, product, vendor and the vality system. Comparable in principle to financial auditing, own for its effectiveness for measuring inspection efficiency nd process control, an effective audit is finding growing use assessing system conformance and a prime tool for reducg product liability. The course also provides a basic plan for uality system in highly diversified and/or multi-plant opera-

#### Course Objectives

This course develops an acute awareness in the student of the impact of poor quality on sales and profits. He is impressed with the economics of good quality and comes away with the knowledge of what quality costs are and how to manage them for best return on the invested quality assurance dollar. Reported quality costs are too often the visible tip of the iceberg while large sources of profit erosion lie beneath the surface. Quality costs, often misunderstood and thus mismanaged, are identified and related to operating expense. The student learns to build quality cost systems that identify, evaluate and report true costs and force corrective action. Reinvestment of failure funds lost as scrap are better invested in prevention dollars. Quality and financial control department interface becomes a part of student practice.

#### Designed For

marily for the quality manager, supervisor and engineer, his basic management tool benefits all operating managers mm procurement to sales delivery.

#### Designed For

While aimed at quality and financial manager teams, all quality practitioners and operating personnel concerned with improved profitability through cost reduction in the quality sector will benefit.

#### Course Content

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Principles-of-Vendor audit Process audit Product (end item) audit Systems audit Multi-plant/product audit Corrective action Functional interface

II. Application-factors for Planning Top management support Sampling techniques Human factors Identifying deficiencies Independent evaluation Trend analysis Data vs. information Effective feedback Reporting results

#### Course Content

Why develop a quality cost system? Quality costs and economic concepts. Management orientation and support. Quality cost elements defined. Element sources identified. Cost data collection and tabulation. Data analysis and reporting. Action reports vs. status reports. Trend analysis and corrective follow-up. Quality cost and accounting system interface. Cost system Audit & Revision

#### Course Details

urse runs from 8:30 a.m., day one, to 3:00 p.m., day three. ccommodations should be arranged directly with hotel. Fees iclude all course materials, coffee breaks and certificate of ompletion. Lodging and meals are not included.

Regular - \$205; ASQC Member - \$180.

#### Course Details

Course runs from 8:30 a.m., day one, to 3:30 p.m., day two, with evening assignment. Accommodations should be arranged directly with the hotel. Fees include all course materials, coffee breaks and certificate of completion. Lodging and meals are not included.

Fee: Regular — \$145; ASQC Member — \$120.

## education and training

David C. Leaman

the pilot study will be made there. The first test run was made on November 16-18, 1971 at the DeAnza College in conjunction with the Accrediting Commission for Junior Colleges, Western Association of Schools and Colleges.

The rapid expansion of courses and degrees in the assurance sciences prompts a need for coordinating programs to provide consistency while maintaining sufficient flexibility in curriculum design to encourage initiative and growth. ASQC's role in this activity will be determined largely from the committee's recommendations based on this two year pilot study.

#### International CQEs

Recently we welcomed I. W. Nixon of Australia to the ranks of ASQC certified—quality engineers. He successfully passed the written examination and became ASQC's second CQE in that country. In addition we have CQEs in such countries as Japan and India, and 72 in Canada. Currently Harry Mottley of General Instrument and an ETI Board member, is negotiating with the quality society in Taiwan at their request to explore ways and means of certifying their members. We are proud indeed of the prestige that the ASQC quality certification programs have achieved.

#### **Section Development**

At a recent Quinsippi Section meeting we were most impressed with an innovative program format which might be a valuable addition to your own section if not already practiced. This was the addition of a workshop session to the usual dinner speaker. Ron Howlett, Section program chairman and works manager for the Keokuk Steel Castings Co., has set up similar workshop sessions for each meeting. Previously encountered at the American Society for Training and Development (ASTD) Milwaukee chapter, this feature promotes attendance and provides an extra worthwhile dimension to continuing education. Incidently, Section Chairman Galen (Dick) Goodson, Gates Radio Co., conducts a fine meeting and we enjoyed speaking to his group.

#### Trends In QC

Our rapidly changing technological age continues to evolve new areas of concern and training needs for the Society. Work in two vital areas, covered by the Nuclear Power Steering Committee and the Bio-Medical Control Technical Committee, has brought to light an urgent need for educa-

tion and training of quality professionals in these fields.

Discussions have been held with Dr. Richard Schlesinger (Bio-Medical Control chairman), Gene Basile (Nuclear Power chairman) and Stan Marash (Nuclear Power Education chairman) to explore the best way in which ETI and their respective committees can cope with these needs. Anyone interested in learning and/or teaching in these important fields should make their interest known. The key subjects of training and standards are occupying major committee time, and the impact of these newer fields on society in general demand the best talent ASQC can provide.

#### Reflections For Progress

"A man flattened by an opponent can get up again. A man flattened by conformity stays down for good."

Thomas J. Watson

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These words may well be applied to a thorough review of your company's quality control department and its quality assurance systems! Reflect for a few minutes and take stock of current programs and practices. It would not be surprising to find that corporate conformity already has eroded your objectivity and started to "flatten you down for good."

Is your quality control function known primarily as a good statistics manipulator, especially on historical data? Do your reports contain meaningful information or simply rearranged data? Is the prime quality control function centered around inspection activities (quality after the fact)? Finally, are your reports and procedures set up for management action, or merely to sustain, perpetuate and enhance the glory of quality control?

A few "yes" answers above spell danger—you're on the road to departmental conformity which so often has victimized the older, established functions of the firm. One new avenue for "breakthrough" from conformity lies in education and training. If it's not already doing so, sell management on the importance of education and worker training which can be performed by quality personnel! These are daily activities for quality control in progressive firms, and provide a great opportunity to break down the walls of conformity and introduce another means of serving management and its quality goals.

#### B. Rogers, currently a human factors engineering specialist with Lockheed Missiles & Incidently, Section Chair

Space Co. and a well known quality educator on the West Coast.

This assignment is in response to appeals from industrial and educational groups for a professional group to coordinate and validate quality curricula in the United States. Early committee efforts have

Accreditation

ciety's Executive Committee has assigned

an important new task to the Education and

Training Institute — a pilot study of the

feasibility of ASQC becoming the recog-

nized accreditation body for quality cur-

ricula in three and four year or graduate

school programs. Much preparation already

has been made by the accreditation com-

mittee under the chairmanship of Herbert

As some of you may be aware, the So-

nate and validate quality curricula in the United States. Early committee efforts have included a thorough review of accreditation practices and policies of existing agencies within education and government. Since a large number of degree programs are available in a localized travel area in California,

ETI Course Registration Form

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161 West Wisconsin Ave., Milwaukee, Wis. 53203
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#### FUTURE ASQC TECHNICAL CONFERENCE DATES

May 8-10, 1972 **Washington,** Washington Hilton

May 21-23, 1973 Cleveland, Sheraton-Cleveland

May 20-22, 1974 Boston, Sheraton-Boston

May 12-14, 1975 San Diego, Town & Country Hotel

May 24-26, 1976

Toronto, Ont., Canada, Royal York

May 16-18, 1977

Philadelphia, Marriott Motor Hotel

See preceding page for course descriptions.

## books

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will find the text exciting, stimulating and motivating.

## FUNDAMENTALS OF STATISTICAL QUALITY CONTROL By C. Samson, Philip Hart and

Charles Rubin Addison-Wesley Publishing Co. Reading, Mass. 01867 1970, 144 pp., \$5.95

Samson, Hart and Rubin wrote a highly successful manual for ASQC which is the basis of this book. Their text was written "to fill a need for a basic text that can be used by the novice as an introduction to the field or by the practitioner as an aid in the solution of industrial problems." I agree that the novice can benefit from this volume, but feel that the experienced practitioner will find the text a little too elementary. This, however, does not detract

from its excellence.

The authors define methods of variation, devoting much of the chapter to the normal curve and calculations using it. They focus attention on data collection and statistical analysis as a means of control and illustrate the use of control charts. "Whenever we prepare a control chart, devise a sampling plan, or design an experiment to aid us in the control of quality," the authors explain, "we are utilizing statistical techniques based on the laws of probability." A chapter on probability is included to help the reader understand the fundamentals of this important subject.

The techniques of materials acceptance are emphasized in terms of samplingrandom, systematic, stratified, subsampling, nonproportional, quota, controlled, uncontrolled and judgment. An excellent table lists the major advantages of these types. The operating characteristic curve (OC) is described and its construction is ex-

Another chapter delves into the details of the OC curve, showing how well a given sampling plan discriminates between good and bad lots. Covered are topics on acceptable quality level, risk definition, comparison of characteristics of different sampling plans, calculation of operating characteristic curves and operating characteristics determined from the poisson distribution. Several examples illustrate key techniques.

Brief coverage is given to quality information, reliability, specification of quality, quality economics, statistical means of setting tolerances and techniques of designing experiments for gaining insight into the reasons for quality variation.

This volume differs from others in quality control in that it offers a stepping-stone approach where one concept leads to another. Readers will find that mathematics have been kept to a minimum since emphasis throughout the book is on practice rather than theory. The book's strength lies in the first five chapters which deal with variation and the tools used to study it, control charts and sampling.

An easily read text, it should prove useful to the quality control beginner who wants a concise explanation of the subjects covered. In-plant training programs in quality control will find this book of value.

GLOSSARY OF DEFINITIONS AN INDEX TO STANDARDS OF THE 1970 ANNUAL BOOK OF ASTM STANDARDS

**ASTM** 1916 Race St., Philadelphia 19103 1970, 716 pp., \$15

Many of us at times have wished for a convenient and accurate source of information on technical terms. ASTM issued the first one in 1968, updated it in 1969 and published this latest version in 1970.

This key reference volume has approximately 492 pages of every standard definition published by ASTM, listed in alphabetical order and cross-indexed by numerical designation. The rest of the volume contains an index to ASTM standards by subject and numeric listing. Definitions span a variety of technical fields.

Some definitions may be unknown to those not in the particular specialty, e.g., "A-a series of ruling or striations intersecting at an angle of about 60 degrees;" or "Chokean imperfection consisting of an insufficient opening in the finish and neck of a container." This volume even tells you when a term is obsolete, e.g., "Cymogene-This term is obsolete and should not be used."

The editors modestly admit that "it is believed that most definitions have been included although a few may have been inadvertently missed." Even though they missed a few, they did an excellent job with this glossary.

Quality control personnel, no matter what their function, will find this a useful reference for both definitions of terms and an entry to ASTM standards. It should be in every library.

#### Index of U.S. Voluntary Engineering Standards

This NBS computer-produced index presents information on more than 19,000 voluntary engineering and related standards, specifications, test methods and recommended practices published by some 360 U.S. technical societies, professional organizations and trade associations, and indexes them by the permuted title or KWIC (key-word-in-context) system. Date of publication or last revision, number of the standard, cross references (where applicable) and an acronym designating the issuing organization form part of every

Issued in March 1971, this publication (1000 pages, \$9) may be ordered prepaid from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or local U.S. Department of Commerce Field Offices as SD Catalog No. C13.10:329. Microfiche is available prepaid for 95 cents a copy from the National Technical Information Service, Springfield, Va. 22151, as NBS Spec. Publ. 329. Foreign orders should include an additional onefourth of price for mailing.

For orders or further information please write directly to the book publisher.

#### DEVELOPING A SUCCESS-ORIENTED ATTITUDE

By Crocker-Citizens National Bank, Addison-Wesley Publishing Co. Reading, Mass. 08167 1970, 163 pp., \$4.95

Training new supervisors to understand the basic principles of effective supervision is a difficult job, especially finding a training method that is closely related to solving problems most typically faced by supervisors. Crocker-Citizens National Bank, aced with this task, developed this volume to solve their problem.

A programed text, the book uses the case method of instruction. Each case points out an attitude or behavior that is necessary if a supervisor is to be successiul. The theory behind the approach is "that you can learn how to react effectively on the job from reading with a successoriented attitude and imagining yourself reacting successfully to each of the situations as they are presented."

Twenty-three cases point out the principles of effective supervision. Section 1 conlains six cases used to illustrate the success-attitude, job commitment, group morale, team effort, delegation and the need b give authority with responsibility.

Section 2 uses 17 cases to explain motivation, counseling, the problem employe, reprimanding, principles of communication, staff development, employe reluctance, employe problems, making minor decisions, work standards and morale problems.

In this fact-packed little book, you will find principles to help train your newly appointed supervisors to become more effective. It can be used to help the "old pros" refresh their memories. Quality control managers should consider this volume for their training programs. Any quality control person who aspires to supervision

# "... abstracts and brief chronicles of the time ..."

YOUR time—the ASQC 26th Annual Technical Conference, May 8-10, in Washington, D.C.

If you are a scheduled speaker at this important international conference, we need an abstract of your finalized paper for pre-conference publication in Quality Progress.

Many who came to the Chicago conference based their attendance on information noted in the abstracts published last March. Help our readers prepare for the 1972 Annual Technical Conference by sending a 100-word abstract of your presentation to: Darlene C. Schmidt, Senior Editor, Quality Progress, 161 West Wisconsin Ave., Milwaukee, Wis. 53203, to arrive by January 10, 1972.

\*Hamlet: Act II, Sc. 2

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